# LOOP CIRCUITRY WITH LOW-PASS NOISE FILTER

## Abstract of the Disclosure

5    [0058]    Phase comparators for use in loop circuits
(i.e., DLL circuits and PLL circuits) are provided.  The
phase comparators include a phase detector for comparing
a reference clock signal and a feedback signal derived
from the loop circuit generated internal clock signal.
10   The phase comparators also include a low-pass noise
filter for filtering out erroneously detected phase
differences between the reference clock signal and the
feedback signal by requiring a certain net number of
leading or lagging detections before the compensation
15   circuitry of the loop circuit (i.e., the controlled delay
line in a DLL circuit or the controlled oscillator in a
PLL circuit) is adjusted.  The number of net measurements
required before these adjustments take place depends on a
programmable bandwidth signal provided to the phase
20   comparator.